

Amendment and Response

Applicant: Hagen Klauk et al.

Serial No.: 10/599,470

Filed: November 17, 2008

Docket No.: I433.251.101/14187

Title: **SENSOR HAVING ORGANIC FIELD EFFECT TRANSISTORS**

REMARKS

The following remarks are made in response to the Non-Final Office Action mailed May 12, 2009. Claims 17-37 were rejected. With this Response, claims 24 and 27 have been amended. Claims 17-37 remain pending in the application and are presented for reconsideration and allowance.

Claim Objections

The Examiner objected to claims 24 and 27 because of informalities.

Claims 24 and 27 have been amended to correct the informalities. Accordingly, Applicants submit that the above objections to claims 24 and 27 should be withdrawn. Allowance of claims 24 and 27 is respectfully requested.

Claim Rejections under 35 U.S.C. § 102

The Examiner rejected claims 17 and 34 under 35 U.S.C. § 102(b) as being anticipated by Vilkomerson, U.S. Patent No. 3,978,508 (“Vilkomerson”).

Applicants submit that Vilkomerson fails to teach or suggest the limitations recited by independent claims 17 and 34 including **an organic field effect transistor**.

Vilkomerson discloses a field effect transistor comprising an N-conductive semiconductor body 12 having P-conductive source and drain zones 16 and 18, which are connected with electrodes 32 and 34, respectively. (Fig. 4). An insulating layer 26 covers the semiconductor body 12 between the source and drain zones 16 and 18 (i.e., the channel region of the field effect transistor). (Fig. 4). An elastomer layer 36 is used as a gate electrode. Elastomer layer 36 produces an electric field when a pressure is applied thereto so that electric charges are produced in the semiconductor body and especially in the channel region. (Col. 1, line 64 – col. 2, line 19).

Vilkomerson fails to disclose *an organic field effect transistor*. Vilkomerson was published in 1976. At that time, organic field effect transistors were completely unknown, as can be seen from Gilles Horowitz, “Organic Field-Effect Transistors” (“Horowitz”). Horowitz states

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that organic field effect transistors were first described in 1987 (i.e., eleven years after the publication date of Vilkomerson. Vilkomerson merely discloses an elastomer that produces an electric field when a pressure is applied thereto. This electric field influences a “classic” field effect transistor, not an organic field effect transistor as recited by independent claims 17 and 34.

In view of the above, Applicants submit that the above rejection of independent claims 17 and 34 under 35 U.S.C. § 102(b) should be withdrawn. Allowance of claims 17 and 34 is respectfully requested.

Claim Rejections under 35 U.S.C. § 103

The Examiner rejected claims 18-23 and 35-37 under 35 U.S.C. § 103(a) as being unpatentable over Vilkomerson as applied to claims 17 and 34 above, and further in view of Horowitz.

Dependent claims 18-22 and 35-37 further define patentably distinct independent claim 17 or 34. Accordingly, Applicants believe that these dependent claims are also allowable over the cited references. Allowance of claims 18-22 and 35-37 is respectfully requested.

Applicants submit that Vilkomerson and Horowitz, either alone, or in combination, fail to teach or suggest the limitations recited by independent claim 23 including **an organic field effect transistor applied on the substrate; and where the substrate is configured as a deformable diaphragm and the measurement quantity corresponding to the bending state of the diaphragm.**

As discussed above with reference to independent claims 17 and 34, Vilkomerson fails to disclose *an organic field effect transistor*. In addition, the Examiner admits that Vilkomerson is silent with respect to where the substrate is configured as a deformable diaphragm and the measurement quantity corresponding to the bending state of the diaphragm. The Examiner submits that Speakman discloses this claim limitation. (Office Action, page 6). This rejection is improper since the Examiner rejected claim 23 based on Vilkomerson and Horowitz, not on Speakman. Further, the publication number or patent number for Speakman is not listed by the Examiner in the rejection or in the Notice of References Cited. Therefore, Applicants are unable

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to review the reference to respond to the rejection. Horowitz also fails to teach or suggest these claim limitations.

In view of the above, Applicants submit that the above rejection of independent claim 23 under 35 U.S.C. § 103(a) should be withdrawn or that the Examiner should provide a corrected non-final office action properly rejecting independent claim 23. Allowance of claim 23 is respectfully requested.

The Examiner rejected claims 24 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Vilkomerson, and further in view of Yaniv et al., U.S. Patent No. 4,827,085 (“Yaniv”).

Applicants submit that Vilkomerson and Yaniv, either alone, or in combination, fail to teach or suggest the limitations recited by independent claim 24 including **an organic field effect transistor**.

As discussed above with reference to independent claims 17 and 34, Vilkomerson fails to disclose *an organic field effect transistor*. In addition, Yaniv merely discloses in Figure 4 a touch sensor wherein sensor elements are provided at crossing points of electric lines that are perpendicular to each other. The sensor elements include resistance means and not *organic field effect transistors*.

In view of the above, Applicants submit that the above rejection of independent claim 24 under 35 U.S.C. § 103(a) should be withdrawn. Dependent claim 25 further defines patentably distinct independent claim 24. Accordingly, Applicants believe that this dependent claim is also allowable over the cited references. Allowance of claims 24 and 25 is respectfully requested.

The Examiner rejected claim 26 under 35 U.S.C. § 103(a) as being unpatentable over Vilkomerson and Yaniv as applied to claim 25 above, and further in view of Mehta et al., U.S. Patent No. 3,795,898 (“Mehta”).

Dependent claim 26 further defines patentably distinct independent claim 24. Accordingly, Applicants believe that this dependent claim is also allowable over the cited references. Allowance of claim 26 is respectfully requested. In addition, Mehta discloses semiconductor memory devices having row and column decoding means. Mehta has nothing to do with organic field effect transistors and force or pressure sensors.

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The Examiner rejected claim 27 under 35 U.S.C. § 103(a) as being unpatentable over Vilkomerson and further in view of Yaniv and Mehta.

Dependent claim 27 further defines patentably distinct independent claim 17. Accordingly, Applicants believe that this dependent claim is also allowable over the cited references. Allowance of claim 27 is respectfully requested.

The Examiner rejected claims 28 and 29 under 35 U.S.C. § 103(a) as being unpatentable over Vilkomerson in view of Yaniv and Mehta as applied to claim 27 above, and further in view of Thompson, U.S. Patent Application Publication No. 2006/0138599 (“Thompson”).

Dependent claims 28 and 29 further define patentably distinct independent claim 17. Accordingly, Applicants believe that these dependent claims are also allowable over the cited references. Allowance of claims 28 and 29 is respectfully requested.

The Examiner rejected claim 30 under 35 U.S.C. § 103(a) as being unpatentable over Vilkomerson in view of Yaniv, Mehta, and Thompson as applied to claim 29 above and further in view of S.T. Cui, “Intermolecular potentials and vapor-liquid phase equilibria of perfluorinated alkanes” (“Cui”).

Dependent claim 30 further defines patentably distinct independent claim 17. Accordingly, Applicants believe that this dependent claim is also allowable over the cited references. Allowance of claim 30 is respectfully requested.

The Examiner rejected claims 31-33 under 35 U.S.C. § 103(a) as being unpatentable over Vilkomerson in view of Yaniv, Mehta, Thompson, and Cui as applied to claim 28 above and further in view of Reamey et al., U.S. Patent No. 5,543,944 (“Reamey”).

Dependent claims 31-33 further define patentably distinct independent claim 17. Accordingly, Applicants believe that these dependent claims are also allowable over the cited references. Allowance of claims 31-33 is respectfully requested.

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CONCLUSION

In view of the above, Applicants respectfully submit that pending claims 17-37 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 17-37 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicants' representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to Steven E. Dicke at Telephone No. (612) 573-2002, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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